FIGURE 1

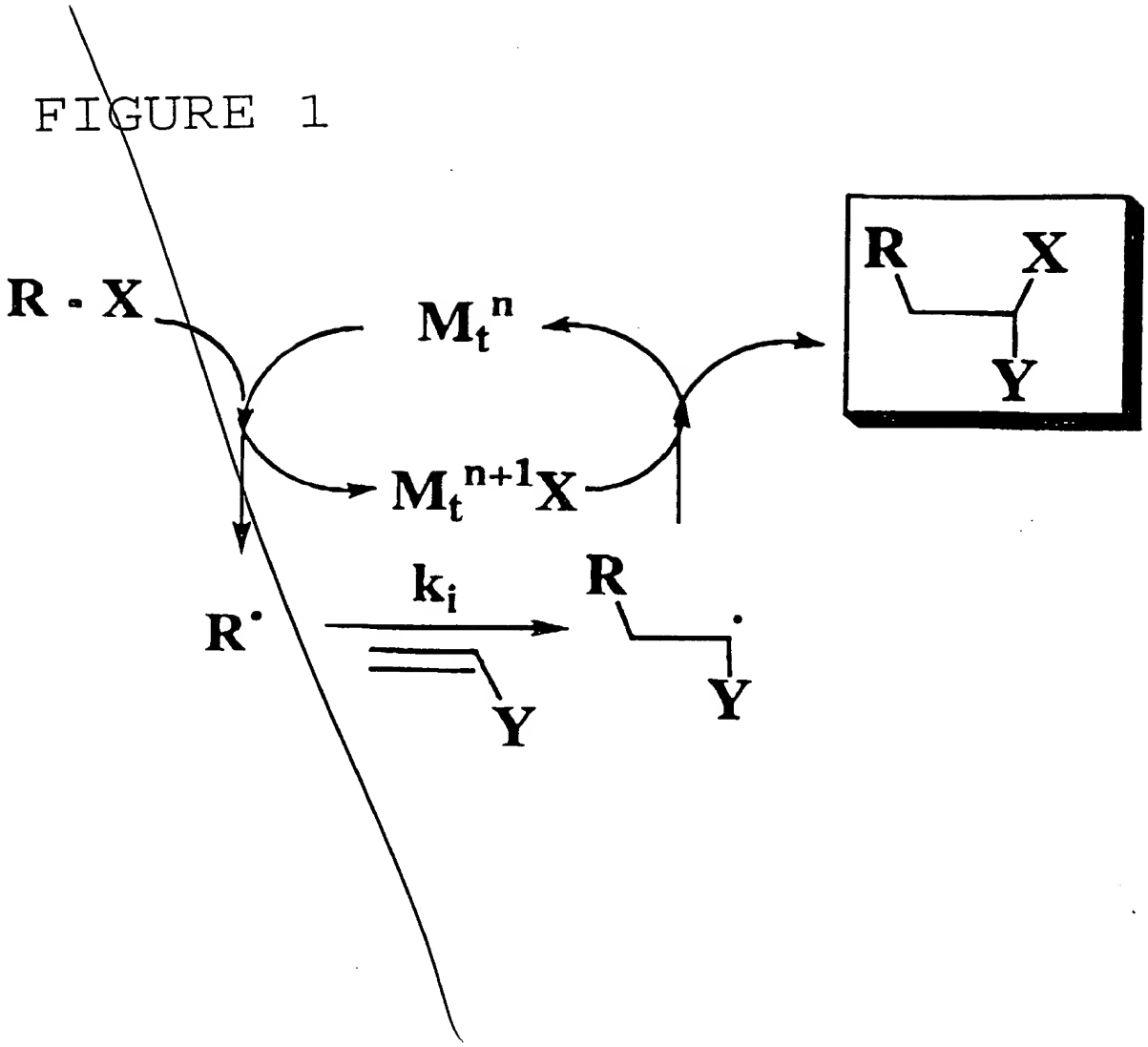

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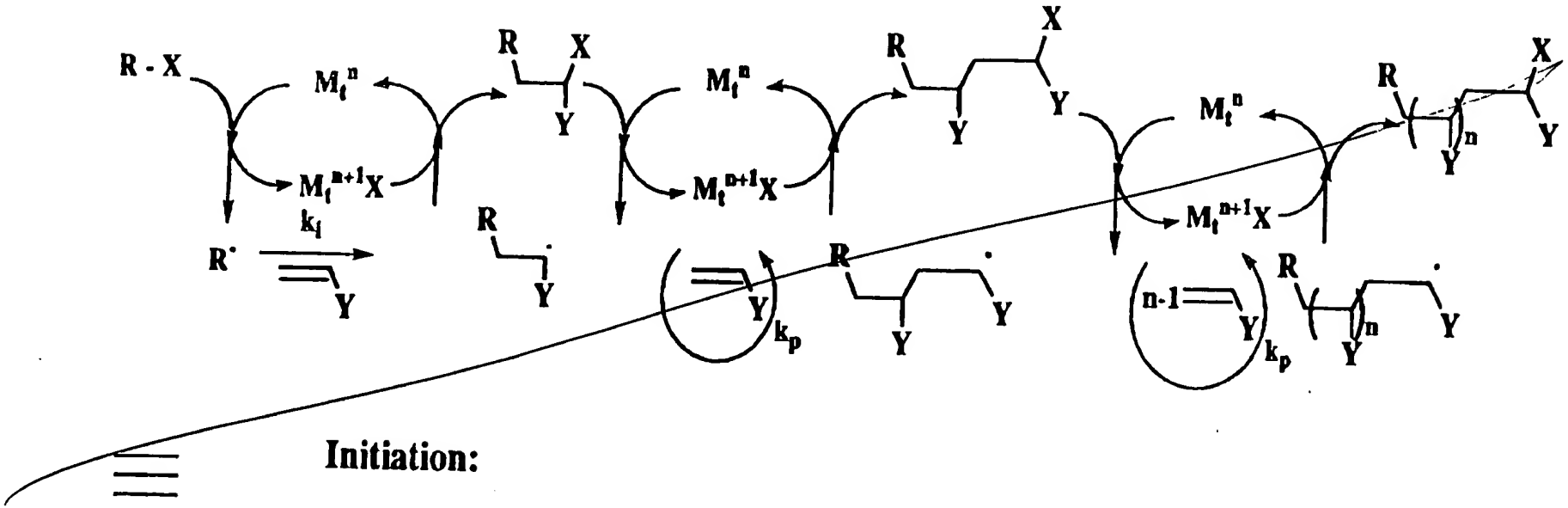
FIGURE 2



Initiation:

$$R\text{-}X + M_t^n \rightleftharpoons [\, R^{\bullet} + M_t^{n+1}X \,]$$

$$\downarrow +M \qquad\qquad k_i \downarrow +M$$

$$R\text{-}M\text{-}X + M_t^n \rightleftharpoons [\, R\text{-}M^{\bullet} + M_t^{n+1}X \,]$$

Propagation:

$$M_{n+1}\text{-}X + M_t^n \rightleftharpoons [\, M_{n+1}^{\bullet} + M_t^{n+1}X \,]$$

$$(+M)\ k_p$$

FIGURE 3

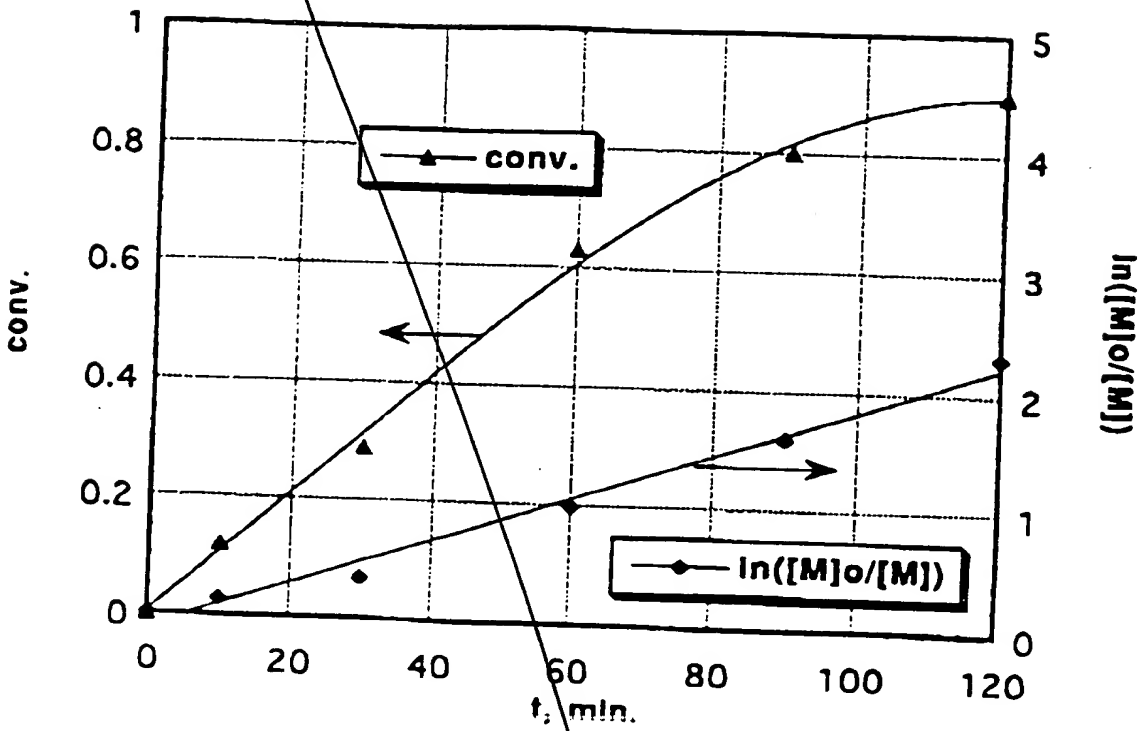

conv.
ln([M]o/[M])
conv.
ln([M]o/[M])
t, min.
0
0.2
0.4
0.6
0.8
1
0
1
2
3
4
5
0
20
40
60
80
100
120

FIGURE 4

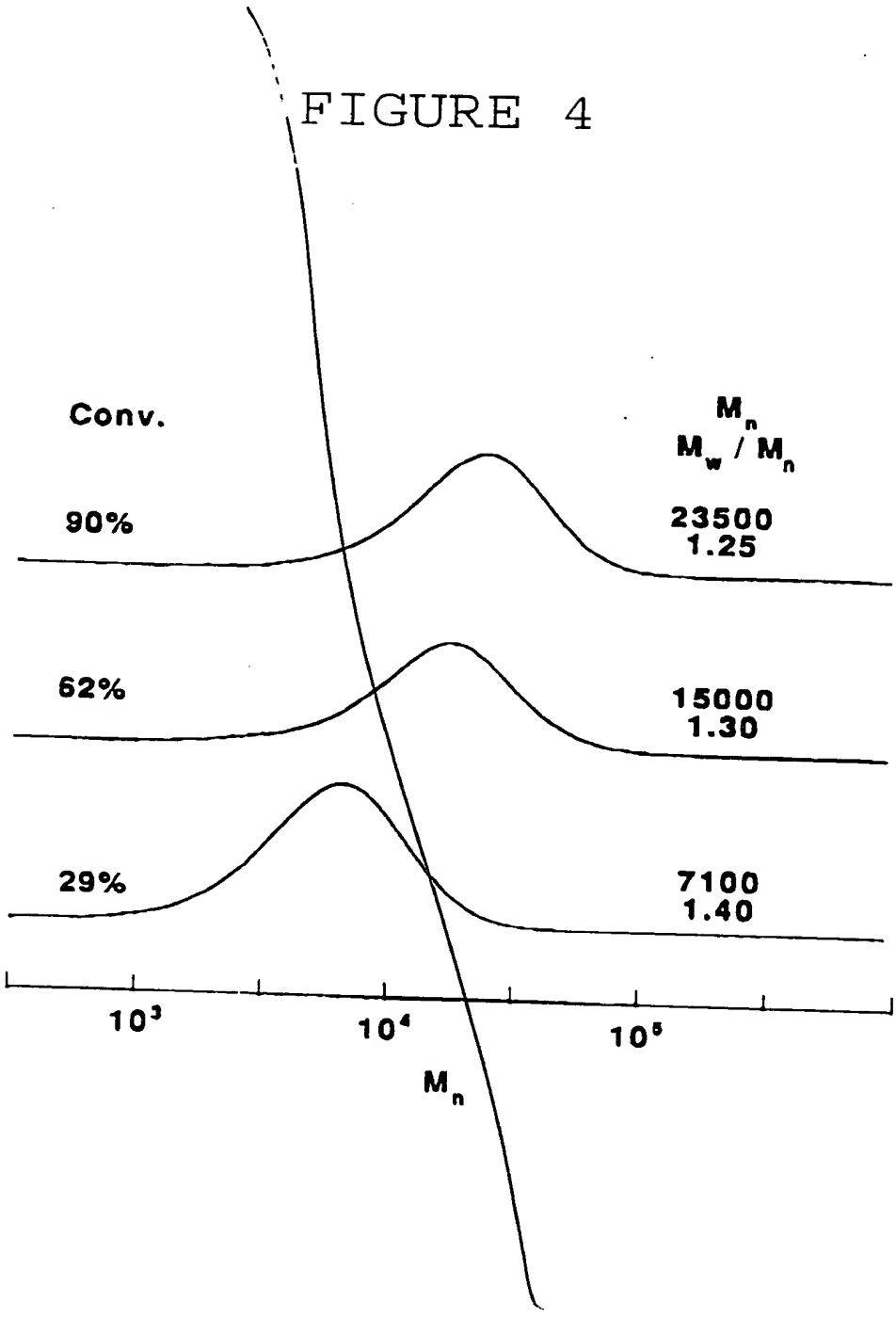


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FIGURE 5

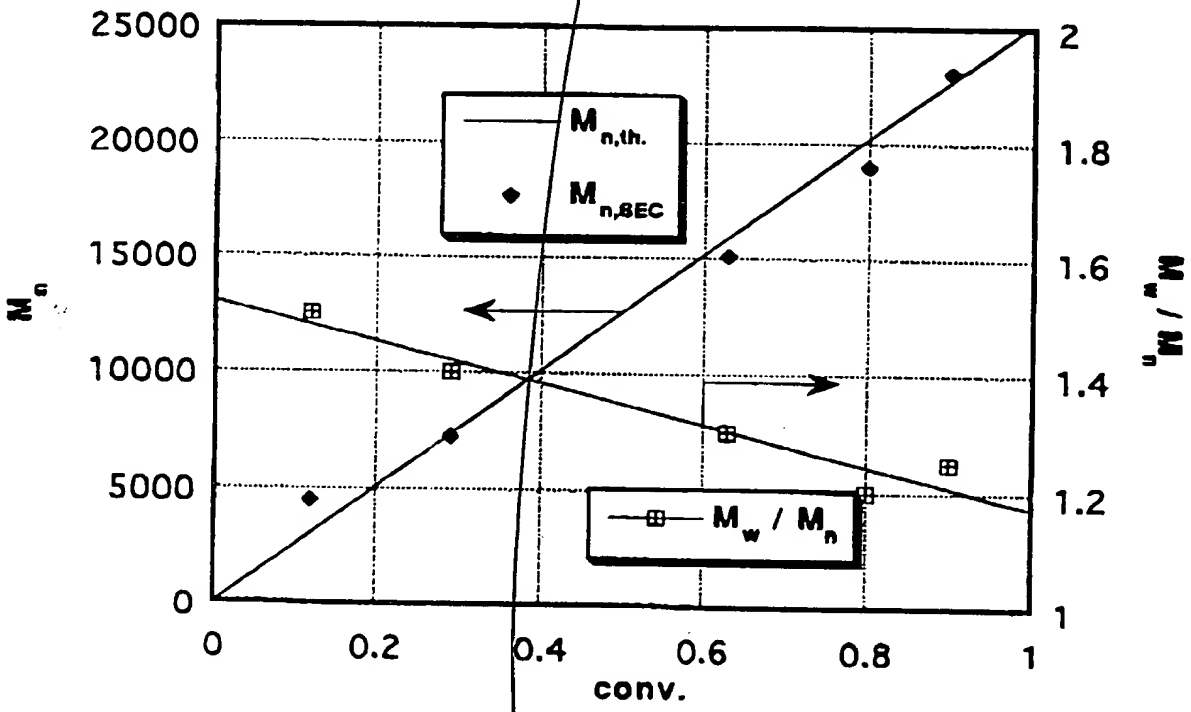
25000
20000
15000
10000
5000
0
0
0.2
0.4
0.6
0.8
1
conv.
2
1.8
1.6
1.4
1.2
1
M_n
M_w / M_n
$M_{n,th.}$
$M_{n,SEC}$
M_w / M_n

FIGURE 6

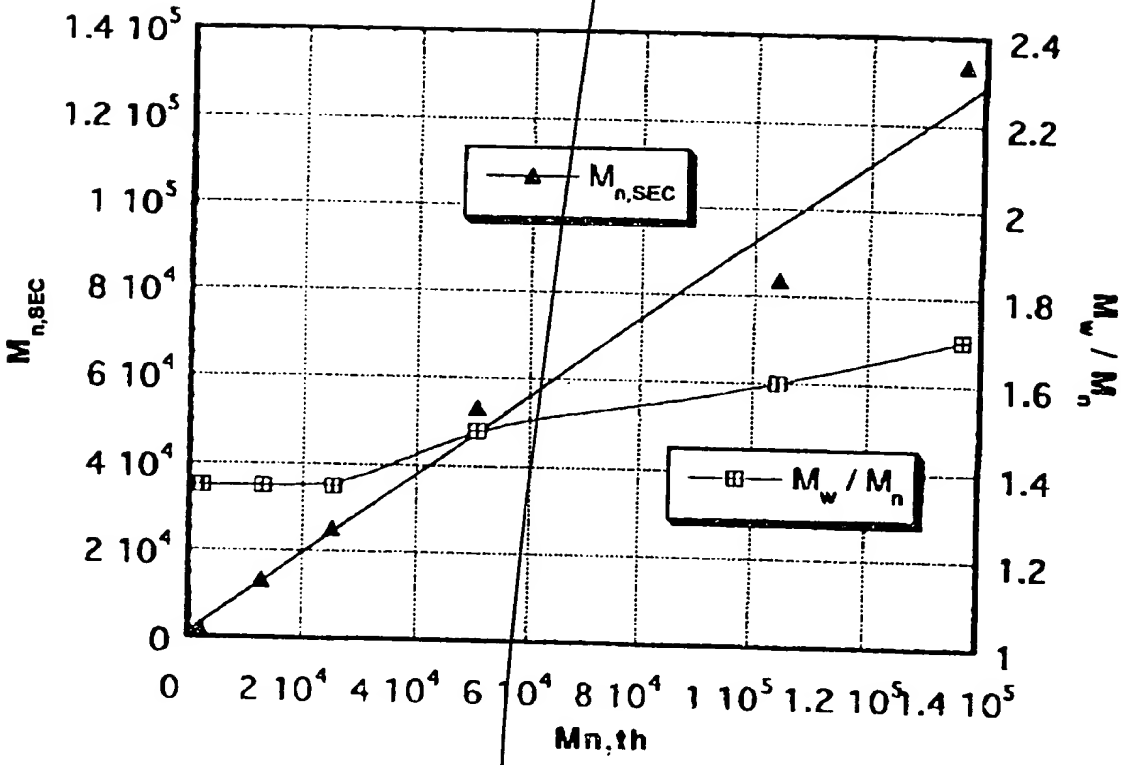
1.4 10^5
1.2 10^5
1 10^5
8 10^4
6 10^4
4 10^4
2 10^4
0
M_n,SEC
0
2 10^4
4 10^4
6 10^4
8 10^4
1 10^5
1.2 10^5
1.4 10^5
Mn,th
M_n,SEC
M_w / M_n
2.4
2.2
2
1.8
1.6
1.4
1.2
1
M_w / M_n

FIGURE 7

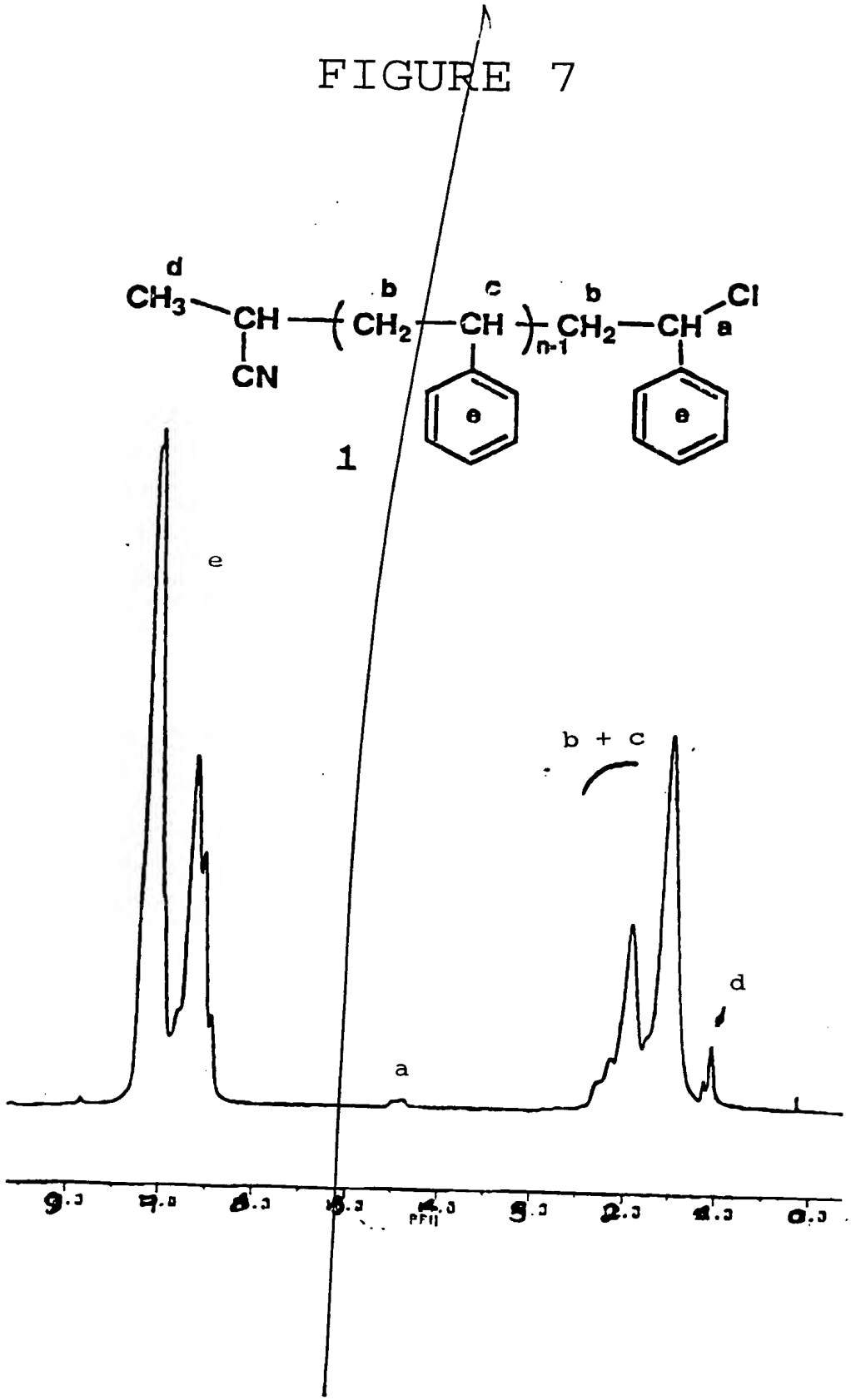
d
CH3
CH
CN
b
CH2
c
CH
n-1
b
CH2
CH
Cl
a
e
e
1
e
b + c
d
a
9.3
7.3
6.3
5.3
4.3
PPM
3.3
2.3
1.3
0.3

FIGURE 8

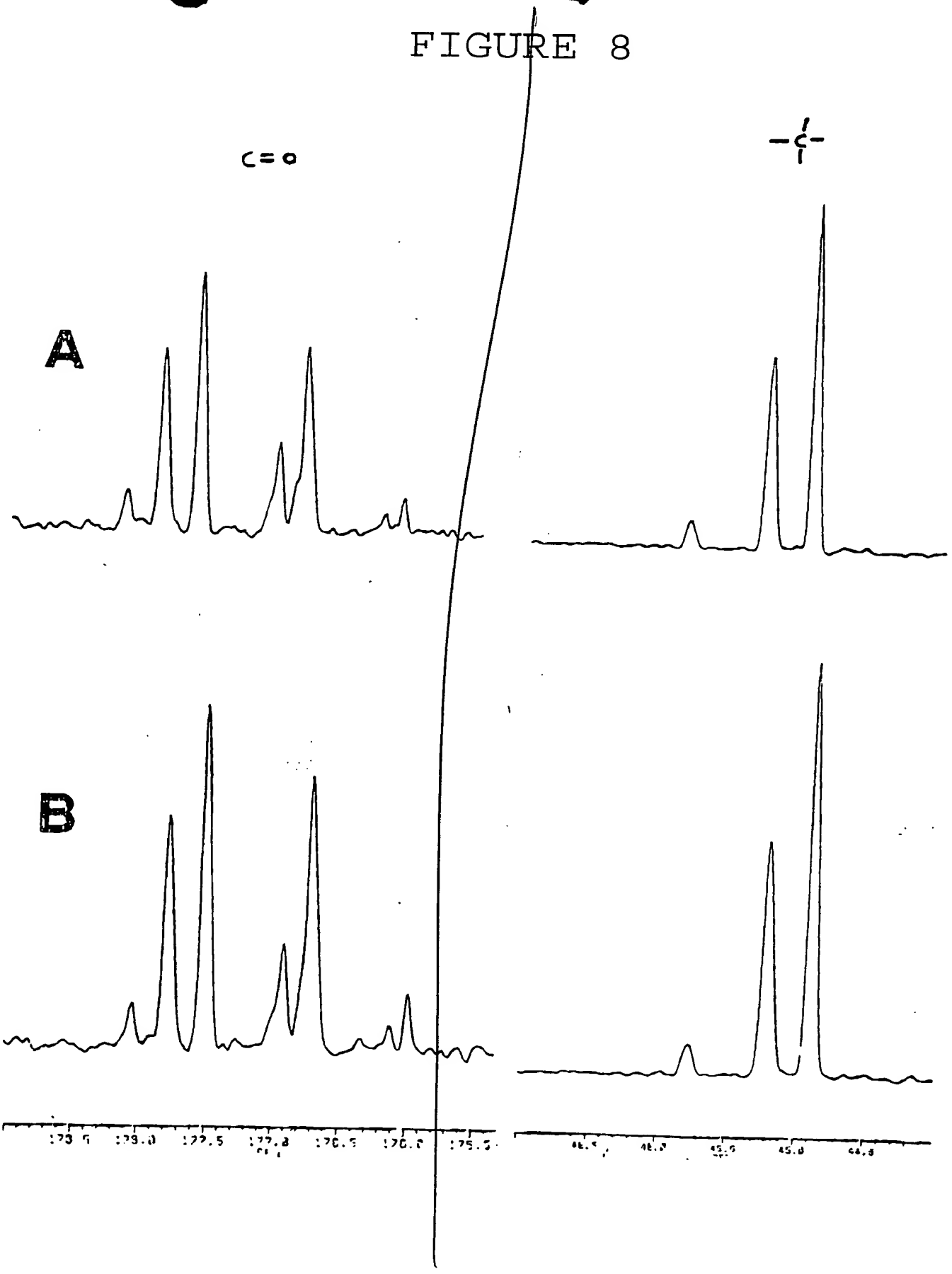

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FIGURE 9

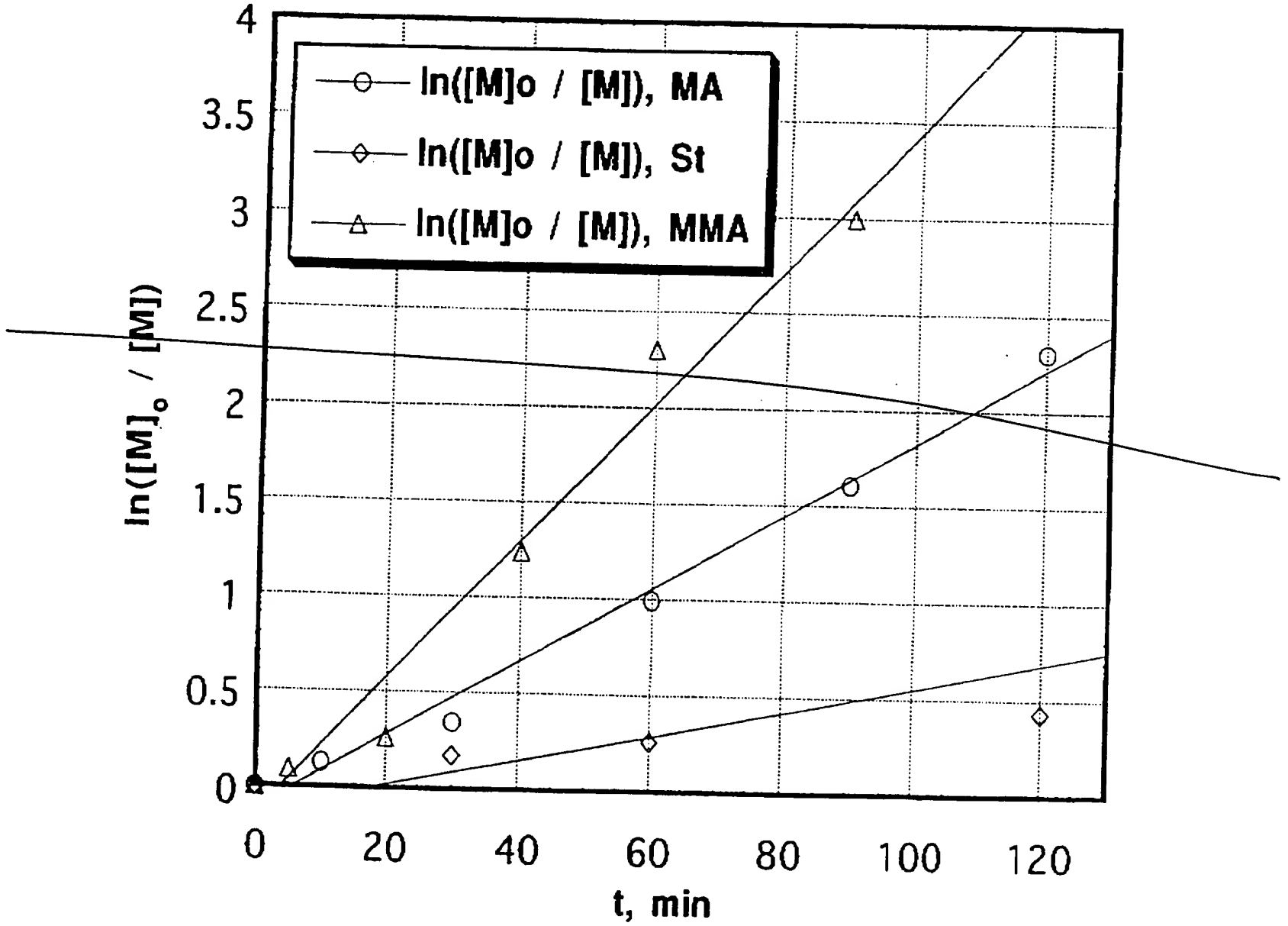

ln([M]o / [M]), MA
ln([M]o / [M]), St
ln([M]o / [M]), MMA
ln([M]o / [M])
t, min
0
0.5
1
1.5
2
2.5
3
3.5
4
0
20
40
60
80
100
120

FIGURE 10

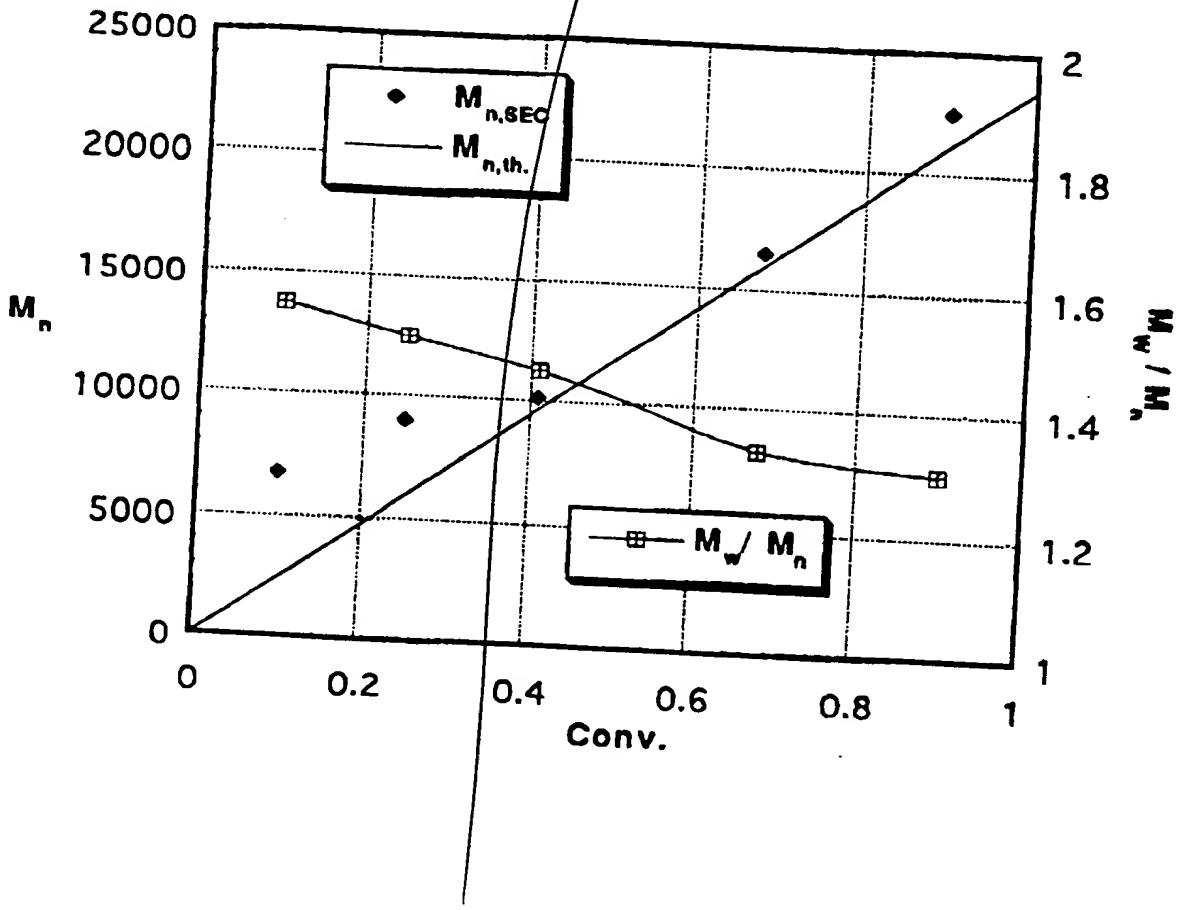

25000
20000
15000
10000
5000
0
M_n
0
0.2
0.4
0.6
0.8
1
Conv.
2
1.8
1.6
1.4
1.2
1
M_w / M_n
$M_{n,SEC}$
$M_{n,th.}$
M_w / M_n

FIGURE 11

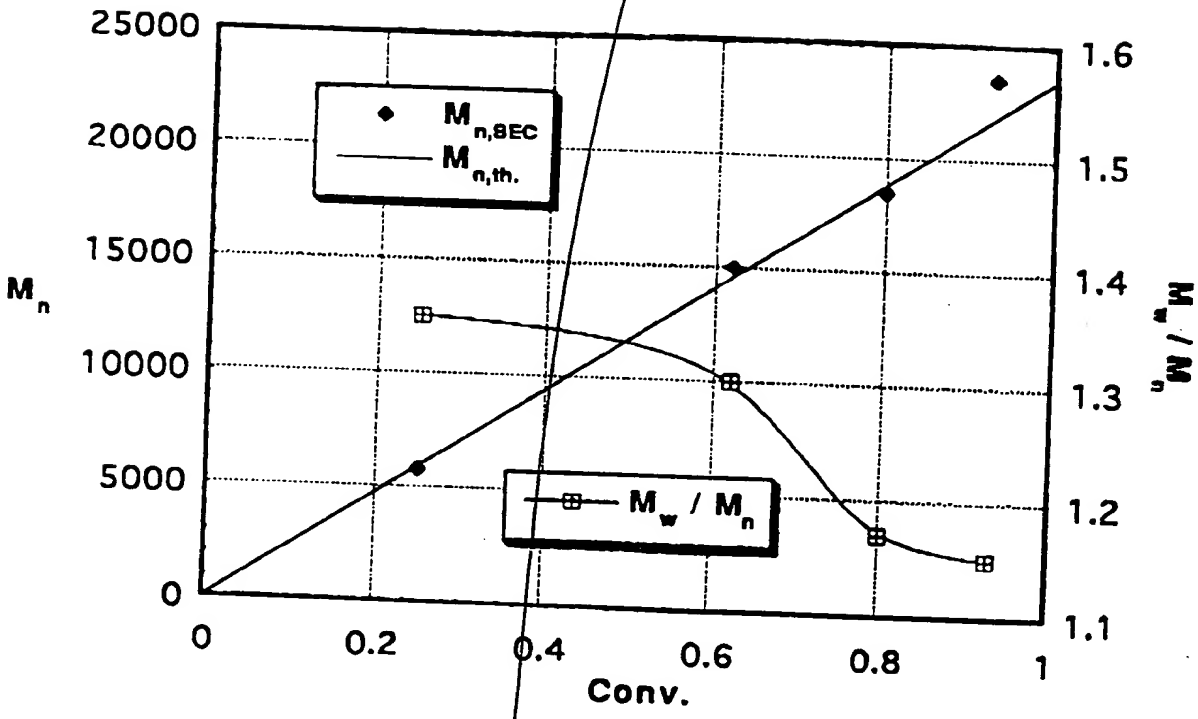
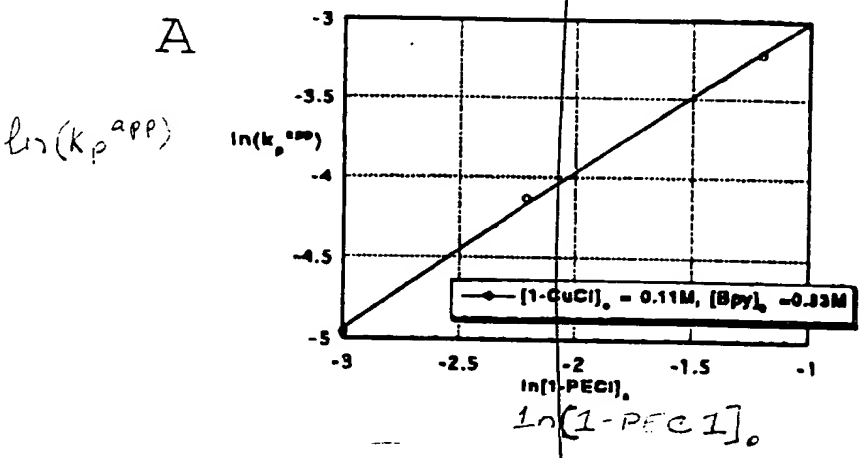

25000
20000
15000
10000
5000
0
M_n
0
0.2
0.4
0.6
0.8
1
Conv.
1.6
1.5
1.4
1.3
1.2
1.1
M_w / M_n
$M_{n,SEC}$
$M_{n,th.}$
M_w / M_n

FIGURE 12

A

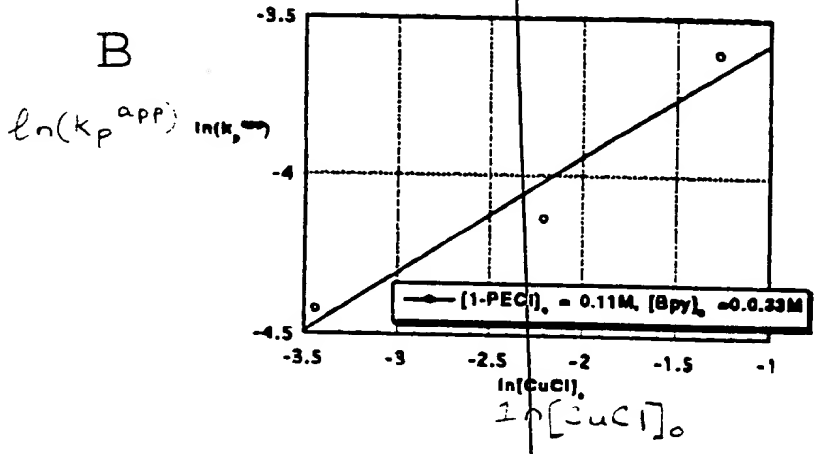


ln[1-PECl]$_o$

[1-CuCl]$_o$ = 0

[Bpy]$_o$ = 0.03

B

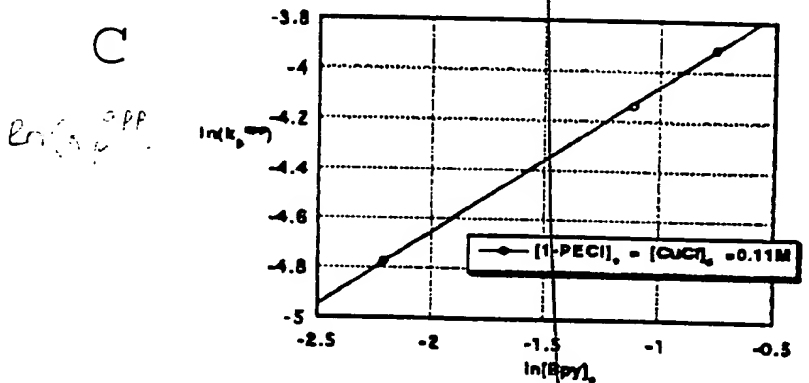


ln[CuCl]$_o$

[1-PECl]$_o$ = 0.11

[Bpy]$_o$ = 0.0.33

C



ln[Bpy]$_o$

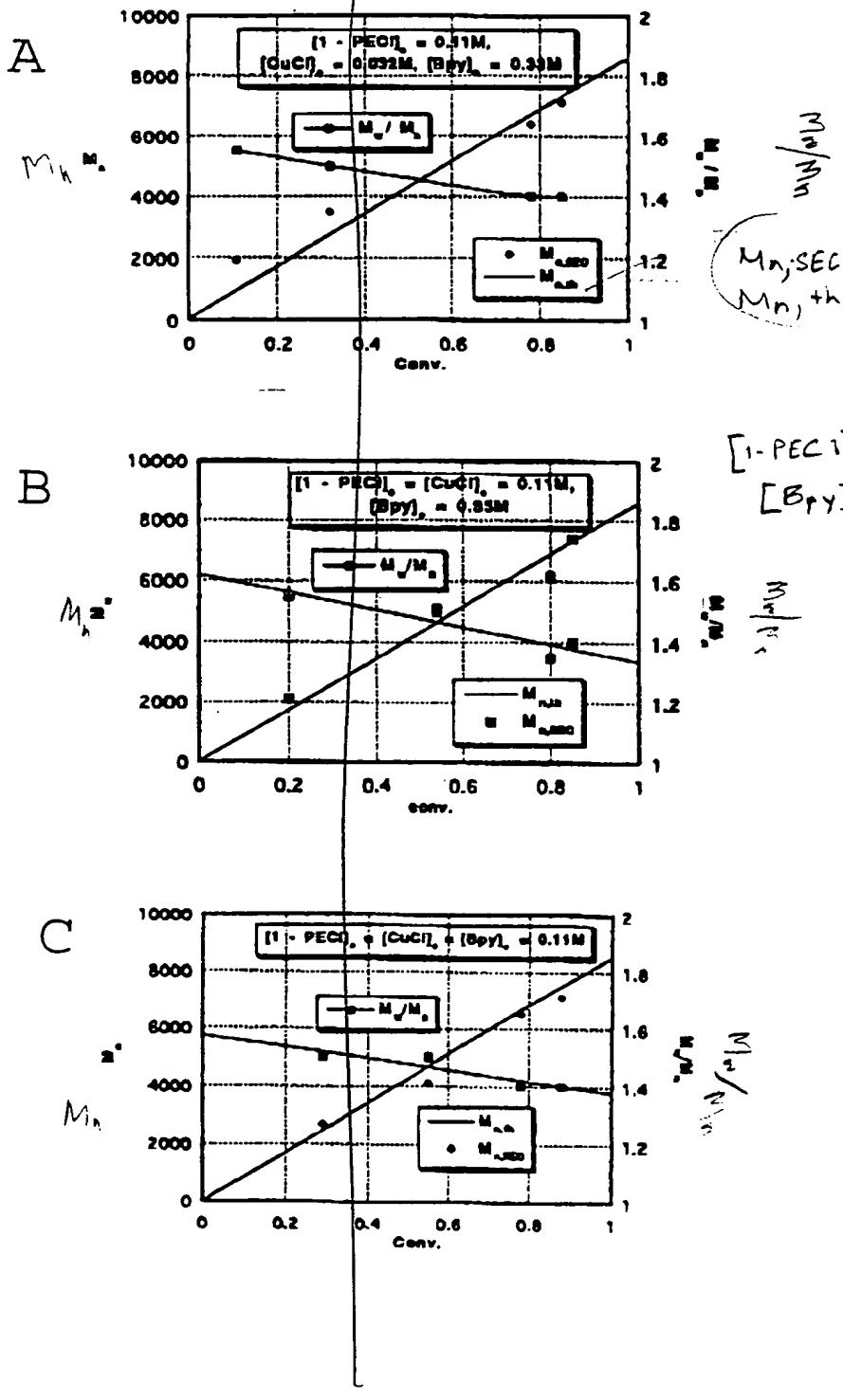
[1-PECl]$_o$ = [CuCl]$_o$ =

0.11M

09234E2 "ABCDEFG

FIGURE 13

$[1\text{-PECl}]_0 = 0.11M$,
$[CuCl]_0 = 0.032M$, $[Bpy]_0 = 0.33M$



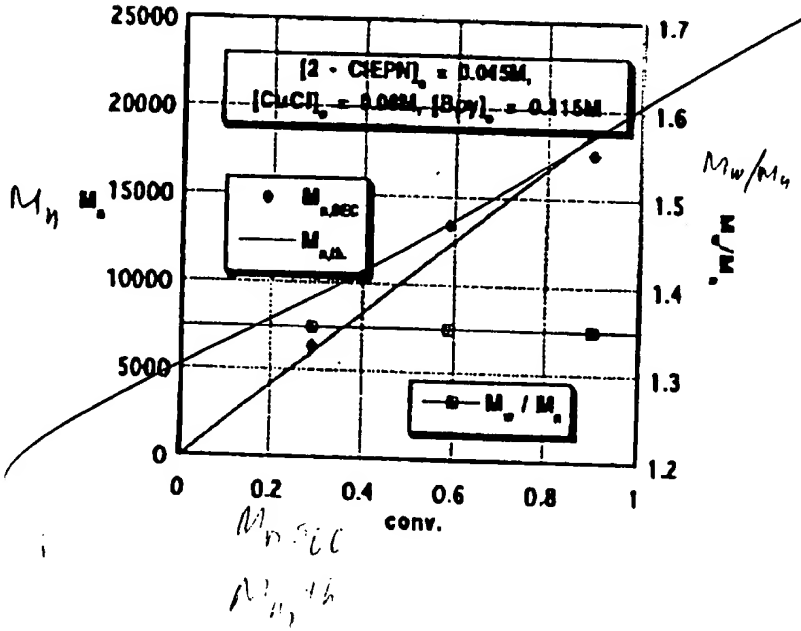
86E0E0" 28ThE060

FIGURE 14

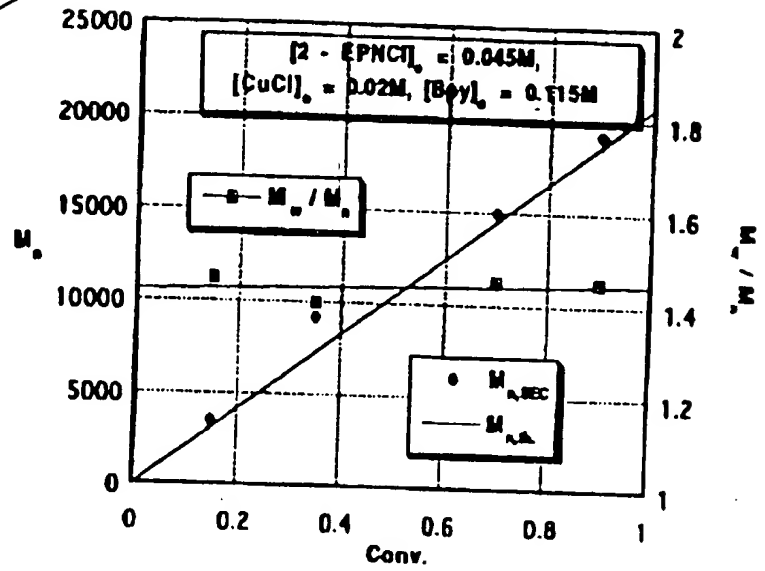
$[2\text{-}CIEPN]_0 = 0.045M$

$[CuCl]_0 = 0.08M$, $[Bpy]_0 = 0.115M$

A



B



B6E0ED" 28ThE060

FIGURE 15

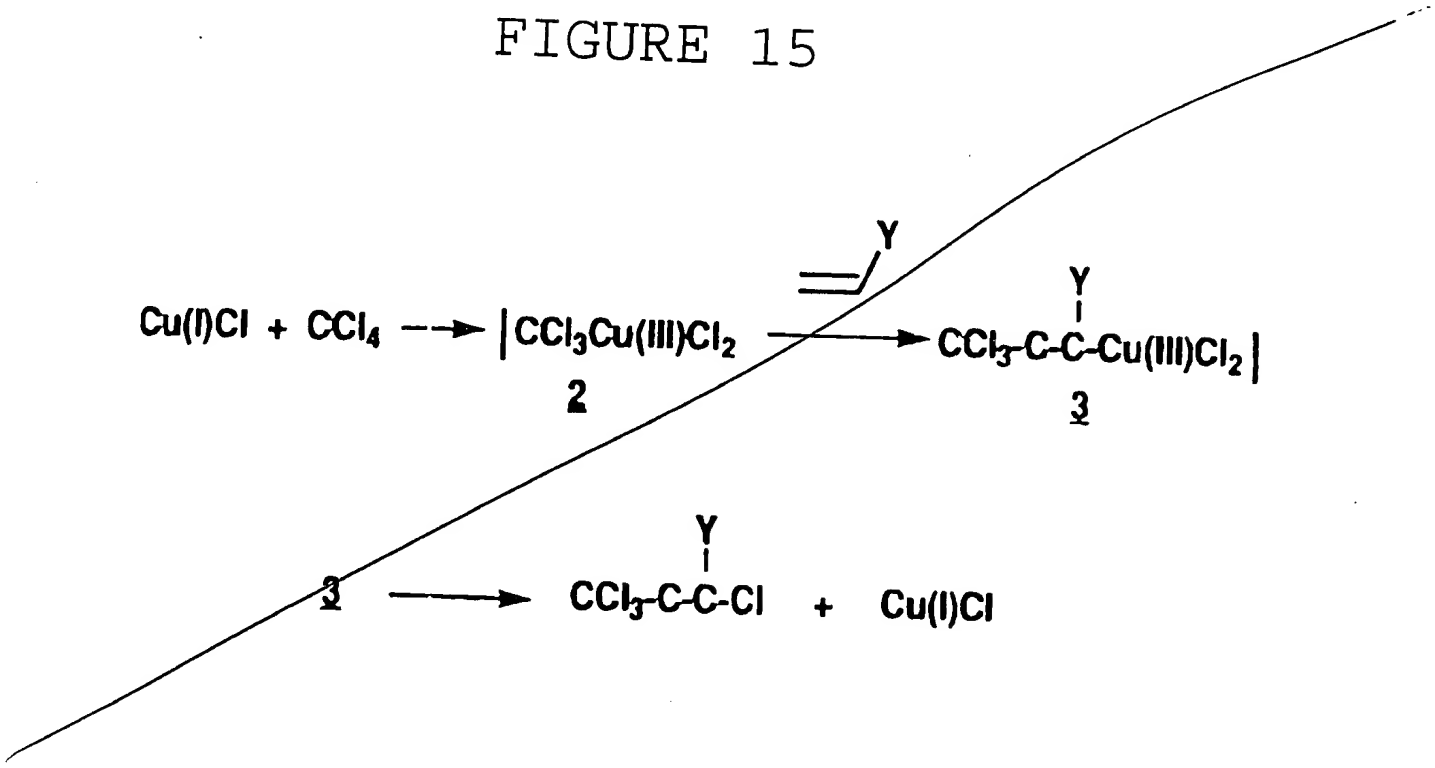
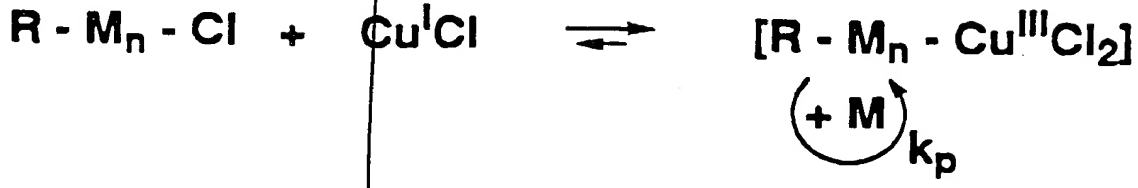


FIGURE 16

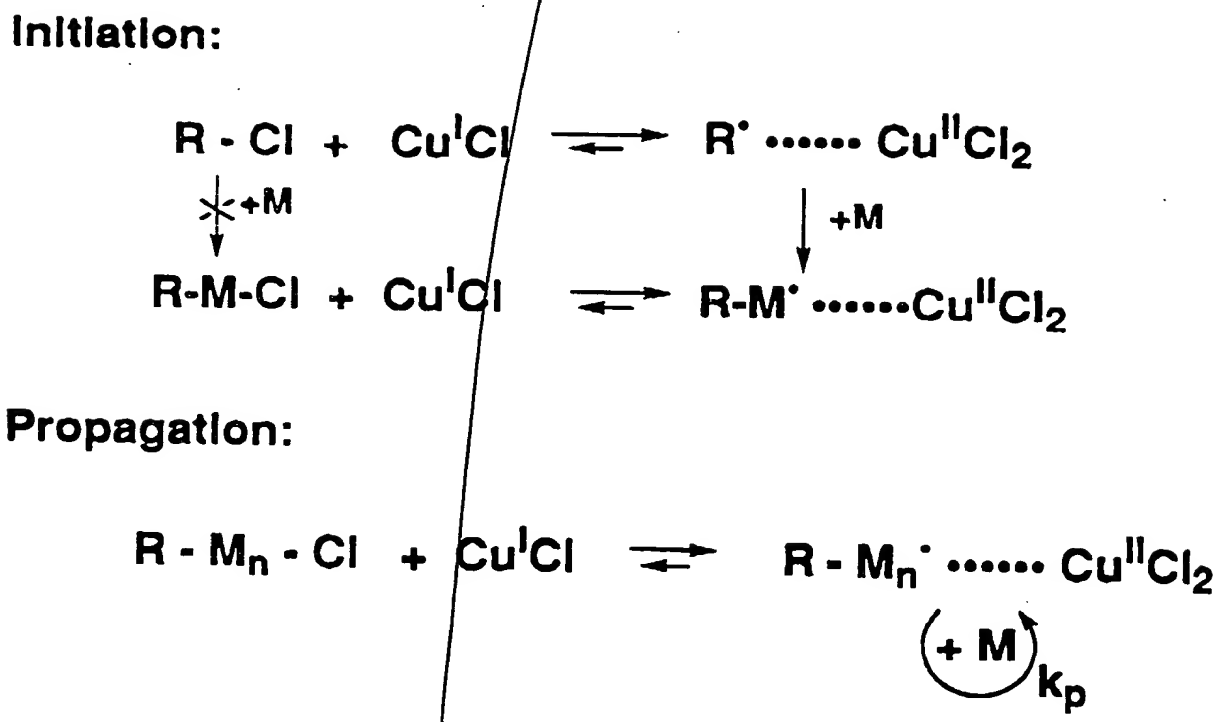
Initiation:

Propagation:



85E0E0" 28Te0E0

FIGURE 17


Initiation:
R - Cl + Cu^ICl ⇌ R• ..... Cu^IICl2
+M
+M
R-M-Cl + Cu^ICl ⇌ R-M• .....Cu^IICl2
Propagation:
R - Mn - Cl + Cu^ICl ⇌ R - Mn• ..... Cu^IICl2
+ M
kp

86E0E0" 28ThE060

FIGURE 18A

FIGURE 18B